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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,346

07/25/2006

Leonard Rexberg

4147-141

6407

23117 7590 08/04/2009  
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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

08/04/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,346	<b>Applicant(s)</b> REXBERG, LEONARD	
	<b>Examiner</b> Qutbuddin Ghulamali	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to amendment filed 5/4/2009.
2. Applicant's amendment of claims 1-5, 10, 11 is acknowledged, the rejection to 112, second paragraph is withdrawn.

### ***Response to Remarks/Amendment***

3. Applicant's remarks/amendment, filed 5/4/2009, with respect to the rejection(s) of claim(s) 1-5, 10-11 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found reference. Indication of allowability is withdrawn in view of newly found reference.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-14, are rejected under 35 U.S.C. 102 (b) as being anticipated by Wright et al (US Pub. 2002/0008578).

Regarding claims 1, 6, Wright discloses a training method for a power amplifier pre-distorter formed by a FIR filter structure, wherein the FIR filter structure includes an

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individual look-up table for each filter tap, each look-up table representing a discretized polynomial in a variable representing signal amplitude, the method comprising:

selecting, from each filter tap look-up table, a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap (figs. 3, 4, 7, 37, 38; page 6, sections, 0087, 0093, 0095, 0096, 0098; page 7, section 0100, 0101, 0102, 0104, 0105);

determining a first estimate (ACPCE estimator) of a first look-up table assigned to a first filter tap, assuming a second look-up table assigned to a second filter tap is set to predetermined table values (page 4, sections 0071, 0072, 0073, 0074; page 5, section 0079; page 6, section 0086);

determining a second estimate of the second look-up table, assuming the first look-up table is set to the determined first estimate (page 4, sections 0071, 0072, 0073, 0074; page 5, section 0079; page 6, section 0086, 0087, 0093; page 7, section 0100, 0101, 0102, 0104, 0105; page 8, section 0114; page 27, section 0411, 0414).

Regarding claims 2, 7, Wright discloses refining the first estimate, assuming the second look-up table is set to a latest determined second estimate (Wright discloses use of look-up table as a multi dimensional table wherein each element of the table again stores a complete set of compensation parameters and indexed; page 6, section 0092, 0096, 0098).

Regarding claims 3, 8, Wright discloses

(a) refining the first estimate, assuming the second look-up table is set to the latest determined second estimate (instantaneous attribute) (page 6, section 0096, 0098;

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(b) refining the second estimate, assuming the first look-up table is set to a latest determined first estimate (Wright discloses the table is updated on a continuous basis to include several updates) (page 7, section 0100, 0101, 0102, 0104, 0105).

Regarding claims 4, 9, Wright discloses that in order to achieve linearity the estimates are iteratively used to minimize error that can be converged upon) (page 18, sections, 0298, 0302).

Regarding claims 5, 10, 11, 12, 13, 14, Wright discloses determining estimates (first, second and so on), refining estimates involve a same equation (page 18, section 0298, 0299, 0300, 0301).

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.

August 3, 2009.

/Chieh M Fan/

Supervisory Patent Examiner, Art Unit 2611